

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) ~~A tool adapted for changing the direction of drilling with drilling equipment comprising a drill string, drill string sub, drilling engine and drill bit, wherein the tool is positioned between the drill string and the bent sub and wherein the tool comprises~~ The tool of claim 16, comprising:

at least two housing elements ~~elements, which are rotationally connected to one another, and~~ another in one direction, wherein a first housing element has a first guide;

~~wherein the tool has a first passage for fluid through the tool; fluid, and wherein the tool is equipped with~~

B1 a hydraulic piston rotationally connected to a second housing element and having a second guide, ~~having a set of co-operating guides where~~ wherein and the guides and the piston-second housing connection are arranged for, by the piston's axial displacement, to a forced guiding of the rotation ~~rotate of a first the second~~ housing element with respect to ~~the other~~ the first housing element ~~elements,~~ and ~~where~~ and necessary fluid pressure for moving the piston is obtained by choking the fluid flow through the tool

~~and wherein a lower intermediate housing element and a lower housing element are connected by a one direction rotatable connection.~~

2. (Currently Amended) The tool of Claim 1, wherein ~~a first set of the guides~~ the first guide is formed in ~~the wall of the passage~~ an inner wall of the first housing element, and ~~a second set of the guides~~ the second guide is formed in ~~the~~ an outer wall of the piston opposite.

3. (Currently Amended) The tool of Claim 2, wherein the ~~set of guides for the forced guiding of the rotation~~ comprise twisted splines ~~splines, a first set of splines being~~

~~formed in a circumferential portion of an upper intermediate housing element whereas a second set of splines is formed in a circumferential portion of the piston.~~

4. (Currently Amended) The tool of Claim 3, wherein the first spline extends along a substantial length of the first housing element ~~set of splines extends in a region at the upper end of the lower housing element, whereas~~ and the second spline set of splines extends essentially in the longitudinal direction along a substantial length of the piston.

5. (Previously Presented) The tool of Claim 1, further comprising a valve comprising a valve seat formed at the upper end of a bore adapted to provide a passage through the piston, a valve body and a valve mechanism adapted for choking and opening the valve by increase and relief, respectively, of the fluid pressure in the tool.

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6. (Currently Amended) ~~The tool of Claim 5, wherein~~ A tool adapted for changing the direction of drilling with drilling equipment comprising a drill string, drill string sub, drilling engine and drill bit, wherein the tool is positioned between the drill string and the drill string sub and wherein the tool comprises:

housing elements, which are connected to one another, and wherein the tool has a passage for fluid, and wherein the tool is equipped with a hydraulic piston having a set of cooperating guides where the guides are arranged for, by the pistons axial displacement, a forced guiding of the rotation of a first housing element with respect to the other housing elements, and where necessary fluid pressure for moving the piston is obtained by choking the fluid flow through the tool and wherein a lower intermediate housing element and a lower housing element are connected by a one direction rotatable connection; and

a valve comprising:

a valve seat formed at the upper end of a bore adapted to provide a passage through the piston;

a valve body; and

a valve mechanism adapted for choking and opening the valve by increase and relief, respectively, of the fluid pressure in the tool, wherein the valve mechanism is formed by an upper and a lower valve body part adapted for displacement along the valve body, so that the lower valve body part can choke or open the valve, and a valve body spring, wherein the upper valve body part will displace the lower valve body part to choke the valve when the pressure of the fluid is increased, and the valve body part spring will displace the lower valve body part in the opposite direction to open the valve by relief of the pressure of the fluid.

B1 7. (Previously Presented) The tool of Claim 5, wherein the piston is adapted to be displaced by the fluid supplied to the tool when the valve has been choked, or be displaced in the opposite direction by a piston spring, positioned in an upper annular space, formed in the passage of the tool, after the valve has opened.

8. (Previously Presented) The tool of Claim 7, wherein the piston is sleeve-shaped, positioned between an upper shoulder formed in the passage of the tool, and a shoulder element located in the upper annular space and formed with a length which enables the piston to extend from the upper shoulder into the upper annular space located in an extension above a lower shoulder formed at the lower end of the upper annular space.

9. (Currently Amended) The tool of Claim 1, wherein the piston and the ~~upper end of the lower~~ second housing element are ~~displaceably and rotatably~~ rotationally connected~~[[,]]~~ in one direction.

10. (Currently Amended) The tool of Claim 9, wherein the ~~displaceable and rotatable connection~~ between the piston and the second housing element is formed by a ratchet mechanism ~~formed with~~ comprising catch elements locking against, or running freely

across, guides a third guide formed at the upper end of the ~~lower~~ second housing elements, ~~so element, so~~ that the ~~lower~~ second housing element is subjected to rotation when the piston is displaced down ~~the passage of the tool, or is without rotation but not~~ subject to rotation when the piston is displaced back through the passage of up the tool.

11. (Currently Amended) ~~The tool of Claim 7, wherein~~ A tool adapted for changing the direction of drilling with drilling equipment comprising a drill string, drill string sub, drilling engine and drill bit, wherein the tool is positioned between the drill string and the drill string sub and wherein the tool comprises:

B1 housing elements, which are connected to one another, and wherein the tool has a passage for fluid, and wherein the tool is equipped with a hydraulic piston having a set of cooperating guides where the guides are arranged for, by the pistons axial displacement, a forced guiding of the rotation of a first housing element with respect to the other housing elements, and where necessary fluid pressure for moving the piston is obtained by choking the fluid flow through the tool and wherein a lower intermediate housing element and a lower housing element are connected by a one direction rotatable connection, and wherein the piston is adapted to be displaced by the fluid supplied to the tool when the valve has been choked, or be displaced in the opposite direction by a piston spring, positioned in an upper annular space, formed in the passage of the tool, after the valve has opened, and wherein the lower housing element has a lower annular space arranged thereto, for fluid which is displaced from the upper annular space, and wherein the annular spaces communicate by means of channels extending between the annular spaces respectively, and wherein the flow of displaced fluid can be controlled by a check valve and a choke valve placed in the respective channels;

a valve comprising:

a valve seat formed at the upper end of a bore adapted to provide a passage through the piston,

a valve body and

a valve mechanism adapted for choking and opening the valve by increase and relief, respectively, of the fluid pressure in the tool.

12. (Previously Presented) The tool of Claim 11, wherein the lower annular space has a displaceable annular space body arranged thereto.

13. (Previously Presented) The tool of Claim 6, wherein the valve body and the upper valve body part are formed with bores, so that a cable can be drawn through the passage of the tool.

B1 14. (Currently Amended) The tool of Claim 1, wherein the one direction ~~rotatable~~ rotational connection between the housing elements comprises a roller bearing adapted for rotation in one direction and opposing rotation in the opposite direction in any rotational position.

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Please add the following new claims:

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B2 15. (New) The tool of Claim 1, further comprising a second passage for fluid defined by an inner wall of the first housing element and an outer wall of the second housing element, wherein a choke valve is disposed within the second passage for controlling the speed of rotation of the tool.

16. (New) A tool for changing the direction of drilling with drilling equipment, wherein the tool is configured to change the direction of drilling in an infinitely variable manner in response to a change in flow rate of a drilling fluid.

17. (New) The tool of Claim 16, further comprising means for changing the direction of drilling in an infinitely variable manner.

18. (New) The tool of Claim 16, further comprising means for controlling the speed of rotation of the tool.

B2 19. (New) A method for changing the direction of drilling with drilling equipment, wherein the drilling equipment comprises a drill string, bent sub, drilling engine, drill bit, and a tool positioned between the drill string and the bent sub and a drilling fluid is being injected through the drill string at a first flow rate to facilitate drilling in a first direction, comprising:

increasing the flow rate of drilling fluid to a second flow rate, wherein the tool changes the direction of drilling from the first direction to any desired second direction; and

decreasing the flow rate of drilling fluid to the first flow rate when the second direction is reached.

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